

**UNITED STATES PATENT AND TRADEMARK OFFICE**

Examiner: Kimberly R. Lockett	Art Unit: 2837
Re: Application of:	Mark DRONGE
Serial No.:	10/620,235
Filed:	July 15, 2003
For:	Method for Coloring Strings and Strings Colored Thereby
Confirmation No.:	8521
Customer Number:	22846

**SUBSTITUTE APPEAL BRIEF UNDER 37 C.F.R. §41.67**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

January 11, 2007

Dear Sir:

On January 30, 2006, appellant, through his attorney, filed a Notice of Appeal appealing the final rejections of claims 8, 9, 12-14 and 17 set forth in an Office Action dated October 25, 2005 for the above-referenced application. The Notice of Appeal was received on February 2, 2006, and an Appeal Brief was timely filed March 29, 2006.

A Notification of Non-Compliant Appeal Brief was mailed June 13, 2006 indicating that the Appeal Brief did not contain a concise explanation of the subject matter defined in each of the independent claims involved in the appeal and did not present an argument under a separate heading for each ground of rejection on appeal. A Substitute Appeal Brief was submitted on July 5, 2006 as a substitute for the originally filed Appeal Brief. A second Notification of Non-Compliant Appeal Brief was mailed August 9, 2006 indicating that the Appeal Brief did not contain a Related Proceedings Appendix and failed to give a concise statement of each ground of rejection presented for review under a heading "Grounds of Rejection to be Reviewed on Appeal". A Substitute Appeal Brief was submitted on

August 11, 2006 as a substitute for the originally filed Appeal Brief, and included a Related Proceedings Appendix and a heading “Grounds of Rejection to be Reviewed on Appeal” with a concise statement of each ground of rejection presented for review. A third Notification of Non-Compliant Appeal Brief was mailed January 8, 2007 indicating that the Substitute Appeal Brief submitted on August 11, 2006 was unsigned. This signed, Substitute Appeal Brief is therefore being submitted as a substitute for the originally filed Appeal Brief. For the reasons set forth below, it is believed that the rejections in the Office Action dated October 25, 2005 should be reversed.

**A. REAL PARTY IN INTEREST**

The real party in interest of the above-identified application is the appellant-inventor, Mr. Mark Dronge.

**B. RELATED APPEALS AND INTERFERENCES.**

At this time, there are no related appeals or interferences.

**C. STATUS OF CLAIMS**

Claims 1-6 and 8-17 are pending in this application. Claim 7 has been cancelled.

Claims 8, 9, 12-14 and 17 have been rejected. Claims 1-6 are allowed. Claims 10, 11, 15 and 16 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Appellant is therefore appealing the final rejections of claims 8, 9, 12-14 and 17.

Claim 1 is an independent claim upon which claims 2-6 depend directly or indirectly, claim 8 is a second independent claim upon which claims 9-12 depend, claim 13 is a third independent claim upon which claims 14-17 depend. The text of the claims on appeal, i.e., claims 8, 9, 12-14 and 17, is found in the Claims Appendix.

**D. STATUS OF AMENDMENTS**

After issuance of the Office Action dated October 25, 2005, no amendments were filed.

**E. SUMMARY OF CLAIMED SUBJECT MATTER**

Claims 8 and 13 are the independent claims involved in this appeal. There are no means plus function clauses in any of the claims involved in the appeal. A concise explanation of the subject matter in each of these claims is as follows:

The present invention as defined in claim 8 relates to a set of strings (10) for a musical string instrument including at least four strings (12, 14, 16, 18, 20, 22), each having a color different than the color of the other strings in the set and a size different than the size of the other strings in the set (see the specification at page 4, lines 7-20, with reference to Fig. 1). The strings are adapted to be mounted on the instrument to enable playing of the instrument by association of a colored note on a sheet of music to the colors of the strings.

The present invention as defined in claim 13 relates to an arrangement for learning to play a musical string instrument including a sheet of music to be played by the instrument having notes, each note being colored a color different than the color of the other notes, and a set (10) of at least four strings (12, 14, 16, 18, 20, 22), each string in the set having a color different than the color of the other strings in the set and a size different than the size of the other strings in the set (see the specification at page 4, lines 7-20, with reference to Fig. 1). The colors of the strings are the same as the colors of the notes (see the specification at page 4, lines 4-6). The strings are adapted to be mounted on the instrument to enable playing of the instrument by association of a colored note on the sheet of music to the colors of the strings 9see the specification at page 8, lines 10-14).

## **F. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

A concise statement of each ground of rejection being presented for review on appeal is as follows:

1. Whether it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the colored strings as disclosed by Roberts (U.S. Pat. No. 3,820,434) with the varying string size as disclosed by Sperzel (U.S. Pat. No. 5,492,044).

2. Whether Nilsson (U.S. Pat. No. 5,268,971) is non-analogous art to the claimed invention.

3. Whether it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the colored strings as disclosed by Roberts with the varying string size as disclosed by Sperzel and the wrapping techniques as disclosed by Nilsson.

## **G. ARGUMENT**

1. Issue 1-Rejection of Claims 8, 12, 13 and 17

Claims 8, 12, 13 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Roberts in view of Sperzel. The Examiner states that Roberts shows different colored strings and that Sperzel shows different sized strings and takes a position that it would have been obvious to modify the strings of Roberts to have different sizes in view of Sperzel.

2. Response

The Examiner's rejection is respectfully traversed on the grounds that it would not have been obvious to modify the colored strings of Roberts to have different sizes in view of Sperzel.

A. Absence of Teaching or Suggestion in Prior Art

To reach a conclusion of obviousness under 35 U.S.C. §103, the Examiner must produce a factual basis supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. The Examiner may satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would

lead the individual to combine the relevant teachings of the references. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

The Examiner states that modifying the different colored strings of Roberts to be varying in size is obvious in view of Roberts “to produce an efficient means of teaching a musical instrument using a variance of notes” (Office Action dated October 25, 2005, paragraph bridging pages 2-3). However, the Roberts method does not contemplate using a variance of notes to aid in the learning process.

Rather, Roberts’ instructional system is operative on the use of color to enable a student to learn how to play the string instrument, i.e., assigning different colors to both the notes to be played as printed on a sheet of music and the strings. The student does not need to “read either words or music” but “need only be able to compare colors and shapes or patterns” (col. 5 lines 37-39, emphasis added). That is, Roberts relies on color to teach a student how to play a string instrument. In fact, by arranging the strings in order based on natural frequency and coloring the strings in the order of the color spectrum, Roberts states that a student can learn the strings “by a natural process resulting from the students prior knowledge of color combination” (col. 3, lines 49-54).

There is absolutely no teaching in Roberts to provide an additional method to enable a student to learn how to play the string instrument, i.e., varying the size of the strings as proposed by the Examiner. Indeed, the use of color alone is sufficient according to Roberts to enable the student to learn how to play a string instrument. An additional method is therefore not required nor suggested by Roberts.

One skilled in the art would not be motivated to provide an additional method to enable a student to learn how to play a string instrument since the use of color alone as described by Roberts is adequate, and nor deficiencies in this method are noted either in Roberts or in Sperzel. Such deficiencies are also not alleged to be knowledge generally available to one of ordinary skill in the art which would lead the individual to combine the relevant teachings of the references.

Sperzel does not relate to teaching a student how to play a string instrument and therefore, it cannot teach or suggest using varying size of strings for the purpose of enabling a student to learn how to play a string instrument.

In conclusion, Roberts and Sperzel are devoid of any teaching or suggestion to use a varying size of strings in combination with a method for learning how to play a string instrument. The absence of such a teaching or suggestion precludes a finding of obviousness of modifying Roberts in view of Sperzel to arrive at the present claimed invention.

#### B. Commercial Success

Additionally, in rebuttal of the alleged obviousness of modifying Roberts in view of Sperzel suggested by the Examiner, appellant has submitted evidence of both commercial success and long-felt need, which taken individually or in combination should overcome the obviousness rejections.

As to evidence of commercial success of the present claimed invention, a Declaration Under 37 C.F.R. §1.132 by the inventor, Mr. Mark Dronge (included in the Evidence Appendix), describes the commercial success for the embodiments set forth in independent claims 8 and 13, the broadest of the rejected claims. Among other things, Mr. Dronge describes the manner in which these embodiments have been commercialized as a set of learning strings and provides facts and information which establish a connection or nexus between the claimed embodiments and specific financial benefits obtained by the commercialization thereof. Mr. Dronge also discussed the creation of a new market for such sold by his company where none existed before.

DR Music has experienced a great deal of success in its endeavors to commercialize the set of learning strings. Specifically, in just about one year from the time we sold our first set of learning strings, we have sold about 10,000 sets of learning strings along with over at least 1,000 instruction manuals and 500 chord books. Our total revenue from the sets for learning strings and related products is about \$150,000. All of this revenue is “new” in the sense that prior to the set of learning strings, we did not sell any single set of guitar strings with strings having different colors.

Subsequent to the execution of that Declaration, the success of the claimed invention has continued with the total number of sets of learning strings sold in 2005 being over 12,000, providing

estimated revenue of over \$100,000.00 for fiscal year 2005 alone. Thus, the financial impact of the invention is significant to Mr. Dronge and his company. Further, the financial impact of the invention has significantly increased since the execution of that Declaration, and continues to increase.

A clear nexus between the claimed invention and the financial benefits is established as Mr. Dronge states:

I attribute the commercial success to the set of learning strings to their very essence, namely, a set of multi-color strings with different sizes to enable them to be installed on and used to play a guitar in a traditional manner but with the added presence of color on the strings to facilitate learning how to play the guitar, when used with sheets of music having color-coded notes.

In view of the information provided by Mr. Dronge in his Declaration, it is respectfully submitted that appellant has established commercial success for the claimed embodiments which can and should overcome the Examiner's obviousness rejection.

#### C. Long-Felt Need

As an alternative or additional ground to rebut the obviousness rejections, appellant is asserting the existence of a long-felt but unsolved need for an effective guitar instruction system. Objective evidence of the existence of a previously unrealized need to provide an effective guitar instruction system is set forth in an accompanying Declaration Under 37 C.F.R. §1.132 by Mr. Daniel Mari (also included in the Evidence Appendix).

In his Declaration, Mr. Mari first establishes his credentials as one of the foremost individuals in the musical string industry:

I have been thoroughly involved in the business of researching, developing, manufacturing and selling strings for musical instruments *for about 55 years* and my family's involvement in the string business goes back *several hundred years*. (emphasis added)

Mr. Mari states that, in his opinion, one of the recognized and persistent problems in the string business is how to enable people to learn how to play string instruments. In view of his extensive background in this field, Mr. Mari asserts that he is aware of a variety of different techniques to enable people to learn how to play string instruments, including that described in Roberts. Mr. Mari states that Roberts' system

was not commercialized and that the problem to enable people to easily learn how to play a string instrument, while providing quality sound, was not solved by Roberts.

Mr. Mari further states that having reviewed the subject matter of the instant application provides a new solution to the problem of learning how to play string instruments such as the guitar while obtaining quality sound, namely, by providing strings in a single set which are colored and sized differently:

The set of learning strings, the subject of this application..., in my opinion, thus provides a new solution to the problem of learning how to play string instruments ... while obtaining quality sound in that not only are the strings in a single set colored differently, but they are also provided with different sizes. It is this size variation feature which enables the strings to be played in a conventional manner while at the same time, making it significantly easier for people to learn how to play a musical string instrument.

Mr. Mari concludes with his opinion that:

the inventive set of learning strings satisfies a long-felt need for a technique to enable people to easily learn how to play a musical string instrument using a color-coded system while producing different notes so that the learner can not only hear different notes, but also can learn to associate the different heard sounds to the different colors of the strings and, via the color association of the strings to the notes, to the different notes. In this manner, the learner can recognize improperly played notes by hearing alone.

Based on Mr. Mari's opinion as embodied by his statements in the Declaration, it should be abundantly clear that the invention satisfies a long-felt need (as further evidenced by the financial benefits arising from the invention described in Mr. Dronge's Declaration discussed above), the problem of enabling people to learn how to play string instruments was recognized by those of ordinary skill in the art and this problem was not satisfied by others before the invention of the set of strings in accordance with the invention by the inventor, Mr. Dronge. Thus, all of the conditions for establishing long-felt need are present.

In view of the above-discussed Declarations establishing commercial success and the presence of a long-felt but unresolved need, it is respectfully submitted that it would not have been obvious to one of ordinary skill in the art to modify the strings of Roberts to have different sizes in view of Sperzel.



In view of the arguments presented above, it is respectfully submitted that the Examiner's rejection of claims 8, 12, 13 and 17 under 35 U.S.C. §103(a) as being unpatentable over Roberts in view of Sperzel has been overcome and should be withdrawn.

3. Issues 2 and 3-Rejection of Claims 9 and 14

Claims 9 and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Roberts in view of Sperzel and Nilsson et al. (U.S. Pat. No. 5,268,971).

A. Issue 2-Non-Analogous Art

The Examiner's rejection is respectfully traversed on the grounds that Nilsson is non-analogous art to the invention because it relates to a significantly different art than the invention.

In order to be analogous art, a reference must "either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention was concerned." In re Oetiker, 977 F.2d 1443, 1446, 244 USPQ2d 1443, 1445 (Fed. Cir. 1992), cited in MPEP §2104.01(a). A reference is reasonably pertinent if "even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992), cited in MPEP §2104.01(a).

Nilsson relates to an optical fiber/metallic conductor composite cable which transmits information in two different ways, using optical fibers and using metallic cables. Nilsson undeniably does not relate to musical instruments or strings therefor.

A field of applicant's endeavor is an arrangement for learning how to play a musical string instrument which color-coordinates the strings to notes on a sheet of music. A "problem" to which the invention is directed is how to enable a person to quickly associate a printed note on the sheet of music with the correct string to be picked or strummed.

To accomplish this objective, claims 9 and 14 provide for a colored wrap wire, which is colored the same color as the string of the musical instrument. Thus, the invention involves using color to enable a quick association between printed notes and strings.

In view of the use of the Nilsson cable to transmit information, Nilsson does not relate to strings for a musical string instrument or an arrangement for learning how to play a musical string instrument.

In view of the substantial difference in the field of the invention and the field of Nilsson and the problems sought to be solved using the different devices, one skilled in the art of string instruments would not information transmission cables to be in the field of the applicant's endeavor, nor would one skilled in the art of musical string instruments consider such information transmission cables to logically commend themselves to an inventor's attention in considering a musical string instrument learning arrangement or set of strings therefor. Moreover, such information transmission cables would not be reasonably pertinent to the problem with which the inventor is concerned.

In view of the foregoing, Nilsson should not be considered analogous art, to the present claimed invention, to Roberts and Sperzel, and therefore one skilled in the art would not apply any teaching of Nilsson when considering modifications to Roberts, as modified by Sperzel. The Examiner's rejection of claims 9 and 14 in view of Nilsson is therefore untenable.

#### B. Issue 3-Non-Obviousness

The Examiner's rejection is respectfully traversed on the grounds that it would not have been obvious to modify the colored strings of Roberts, modified in view of Sperzel, to apply the wrapping techniques as disclosed by Nilsson.

Even if Nilsson were to be considered analogous art, it would not have been obvious to one skilled in the art to use the wire wrapping technique of Nilsson in combination with both Roberts and Sperzel since the purpose of the color coding of wires in Nilsson is fundamentally different than the purpose of the color coding of wires in the claimed invention.

In view of the arguments presented above, it is respectfully submitted that the Examiner's rejection of claims 9 and 14 under 35 U.S.C. §103(a) as being unpatentable over Roberts in view of Sperzel and Nilsson et al. has been overcome and should be withdrawn.

## **H. CONCLUSION**

The Examiner's position regarding the obviousness of modifying the colored strings of Roberts to be varying in size in view of Sperzel is rebutted in view of the absence of any teaching or suggestion in the cited prior art to provide for such a modification, the existence of commercial success for the present claimed invention as well as the existence of a long-felt yet unresolved need which is solved by the present claimed invention. Overwhelming evidence of both commercial success and long-felt need are provided and should suffice to overcome the obviousness determined by the Examiner. Moreover, Nilsson is non-analogous art and therefore its teachings are not properly combinable with Roberts and Sperzel.

Therefore, upon reason and authority, it is respectfully requested that the Board reverse all of the final rejections.

An early and favorable action on the appeal is earnestly solicited.

FOR THE APPELLANT  
Respectfully submitted,

/Brian Roffe/

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## CLAIMS APPENDIX

8. A set of strings for a musical string instrument, comprising:  
at least four strings, each of said strings having a color different than the color of the other of said strings in said set and a size different than the size of the other of said strings in said set,  
said strings being adapted to be mounted on the instrument to enable playing of the instrument by association of a colored note on a sheet of music to the colors of said strings.
9. The set of strings of claim 8, wherein each of said strings comprises an uncolored core wire and a wrap wire wrapped around said core wire, said wrap wire being colored to provide the color of said string.
12. The set of strings of claim 8, wherein said at least four strings comprises six strings.
13. An arrangement for learning to play a musical string instrument, comprising:  
a sheet of music to be played by the instrument having notes, each of the notes being colored a color different than the color of the other notes; and  
a set of at least four strings, each of said strings in said set having a color different than the color of the other of said strings in said set and a size different than the size of the other of said strings in said set, the colors of said strings being the same as the colors of the notes,  
whereby said strings are adapted to be mounted on the instrument to enable playing of the instrument by association of a colored note on said sheet of music to the colors of said strings.
14. The arrangement of claim 13, wherein each of said strings comprises an uncolored core wire and a wrap wire wrapped around said core wire, said wrap wire being colored to provide the color of said string.
17. The arrangement of claim 13, wherein said set of strings comprises six strings.

## EVIDENCE APPENDIX

Declaration Under 37 C.F.R. §1.132 by Mr. Daniel Mari

Declaration Under 37 C.F.R. §1.132 by the inventor, Mr. Mark Dronge

RELATED PROCEEDINGS APPENDIX

None/Not applicable